UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,526	08/24/2006	Tatsuhiko Kodama	295060US0PCT	9779

22850 7590 07/21/2010

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER
WANG, CHANG YU

ART UNIT	PAPER NUMBER
1649	

NOTIFICATION DATE	DELIVERY MODE
07/21/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/590,526	KODAMA ET AL.	
	Examiner	Art Unit	
	CHANG-YU WANG	1649	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

RESPONSE TO AMENDMENT

Status of Application/Amendments/claims

1. Applicant's amendment filed 4/28/10 is acknowledged. Claims 1-20 are cancelled. Claim 21 is amended. Claims 37-42 are newly added. Claims 21-36 and newly added claims 37-42 are pending in this application and under examination in this office action.

2. Applicant's arguments filed on 4/28/10 have been fully considered but they are not deemed to be persuasive for the reasons set forth below.

Claim Rejections/Objections Withdrawn

3. The rejection of claims 21-29 and 31-36 under 35 U.S.C. 112, second paragraph, as being indefinite is withdrawn in response to Applicant's amendment to the claims.

The rejection of claims 21-36 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn in response to Applicant's amendment to the claims.

Claim Rejections/Objections Maintained

In view of the amendment filed on 4/28/10, the following rejections are maintained.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 21-42 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for diagnosis of coronary artery condition (CA), unstable angina (UAP) and myocardial infarction (AMI) by measuring an increased level of PTX3 using an anti-PTX antibody in patients with the above conditions as compared to defined controls, does not reasonably provide enablement for a method for assessing the extent of vascular injury in a subject who has not had a myocardial infarction or no cardiovascular disease, or no cerebrovascular disease, or who have been diagnosed as having diabetes, hyperlipidemia, cerebral disease, hypertension, obesity or smoking by determining the level of PTX3 including using an anti-PTX3 antibody wherein the extent of vascular injury is described by undefined histological parameters recited in independent claim 21 as broadly claimed. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. The rejection is maintained for the reasons made of record and the reasons set forth below.

Claims 21-38 are drawn to a method for assessing the extent of vascular injury associated with a coronary artery condition in a subject who has not had a myocardial infarction, no cardiovascular disease, or no dementia in relation to a cerebrovascular disease, or who have been diagnosed as having diabetes, hyperlipidemia, cerebral disease, hypertension, obesity or smoking by determining the level of PTX3 including using an anti-PTX3 antibody in a test blood, plasma or serum sample from a subject

compared to a control value of subject(s) having normal coronary artery condition; and assessing a greater extent of vascular injury when an increased level of PTX3 in the blood, plasma, or serum of the subject is found compared to the control value; wherein vascular injury is described by at least one of the following histological parameters (a) lipid core size, (b) thickness of fibrous cap, (c) strength of shear stress and (d) extent of inflammatory infiltration.

Claims 39-40 are drawn to a method for assessing the extent of vascular injury in a subject at risk for heart disease but who has not had a myocardial infarction comprising determining the level of PTX3 in a test blood, plasma or serum sample from a subject compared to a control value of subject(s) having normal coronary artery condition; and assessing a greater extent of vascular injury when an increased level of PTX3 in the blood, plasma, or serum of the subject is found compared to the control value; wherein the subject is at risk of a coronary artery condition (CA), stable angina (AP), unstable angina (AP) or myocardial infarction (AMI) compared to a normal subject having a normal coronary artery.

Claims 41-42 are drawn to a method for assessing progression of a coronary artery condition in a subject who has not had a myocardial infarction comprising obtaining a blood, plasma or serum sample from said subject, determining the level of PTX3 in the sample, and assessing a progression from stable angina toward unstable angina or from unstable angina toward myocardial infarction when the level of PTX3 is higher than the level of PTX3 determined in an otherwise similar sample previously obtained from the subject.

On p. 6-7 of the response, Applicant argues that the claimed method is based on a relative increase or decrease with regard to the control and thus is enabled recite an increased level of pentraxin with respect to a control value. Applicant argues that relative increases in PTX3 levels compared to values of subjects with normal coronary artery conditions and subjects having increasing degrees of vascular injury as in examples (p. 51) and figure 4. Applicant argues that when an increase in PTX3 occurs with respect to a normal control, then a greater extent of vascular injury is assessed. Applicant argues that increases in PTX3 levels correlates with the extent of severity of vascular injury. On p. 8-10 of the response, Applicant argues that the specification shows that PTX3 levels significantly and progressively increase in stable angina (AP), unstable angina (UAP) and myocardial infarction (AMI) above PTX3 values of subjects having normal coronary arteries. Applicant argues that the vascular damages as characterized by the histological parameters recited in claim 21 and cites Libby (J. Int. Med. 247: 349) and Moreno (J. Stroke and Cerebrrovascular Disease 10: 2-9) in support of the arguments. Applicant's arguments have been fully considered but they are not persuasive.

In response, based on the specification, Applicant is enabled for detecting a relative increased or decreased level of PTX3 in patients with (AP), unstable angina (UAP) and myocardial infarction (AMI) as compared to a normal control as shown in examples on p. 51 and figure 4. However, the instant claims are not limited to the method as set forth above. The instant claims are directed to assessing the extent of

vascular injury associated with a coronary artery conditions based on an increased level of PTX3 in blood, plasma or serum of a subject who has not had a myocardial infarction.

If assessing the extent of vascular injury associated with a coronary artery condition is based on the level of PTX3, one cannot assess the vascular injury associated with AP based on the data shown in figure 4. Note that based on the data shown in figure 4, the PTX levels in patients with normal coronary artery are identical to the patients with AP. Thus, it is unpredictable whether or not a patient is suffering from AP or has what extent of vascular injury based on the level of PTX as compared to normal controls. If the relationship between the level of PTX3 and the extent of vascular injury re is not known, a skilled artisan would not know how to assess whether a patient with the level of PTX like the level in AP has what extent of vascular injury associated with any coronary artery conditions. In addition, it is noted that the value of the error bar in patients with AMI is bigger than the sample value as in figure 4, which is not statically significant.

As previously made of record, the specification fails to provide sufficient guidance as to what the specific level of PTX3 as an indicator of a specific extent of vascular injury is. The specification fails to teach the relationship between the levels of PTX3 and the histological parameters of the lipid core size, thickness of fibrous cap, strength of shear stress and the extent of inflammatory infiltration in different conditions. The instant specification fails to teach what levels of PTX3 are correlated to what degrees of the recited histological parameters (lipid core size, thickness of fibrous cap, strength of shear stress and the extent of inflammatory infiltration) in patients who are suffering

from all forms of vascular injury and have no myocardial infarction, no dementia in relation to a cerebrovascular disease or who has hyperlipidemia, cerebral disease, hypertension, diabetes, obesity or smokes as recited in instant claims 21-38. Note that Applicant cannot use an unknown parameter (an unknown level of PTX3) to determine another unknown outcome from the recited pathological conditions. Note that

"The 'predictability or lack thereof' in the art refers to the ability of one skilled in the art to extrapolate the disclosed or known results to the claimed invention. If one skilled in the art can readily anticipate the effect of a change within the subject matter to which the claimed invention pertains, then there is predictability in the art. On the other hand, if one skilled in the art cannot readily anticipate the effect of a change within the subject matter to which that claimed invention pertains, then there is lack of predictability in the art. Accordingly, what is known in the art provides evidence as to the question of predictability. In particular, the court in In re Marzocchi, 439 F.2d 220, 223-24, 169 USPQ 367, 369-70 (CCPA 1971)" See MPEP § 2164.03.

In addition, the instant specification only shows that the levels of PTX3 in the blood of patients suffering from CA, UAP and AMI are higher and the pathological conditions of these patients are severe as compared to patients without CA, UAP and AMI. There is no guidance or no correlation between the levels of PTX3 and the extent of different histological parameters in different diseases recited in claims 21-38 and 39-40. There is no guidance as to how the levels of PTX3 would affect the recited histological parameters. There is no guidance as to how other diseases correlates to CA, UAP and AMI and how the recited histological parameters in patients with CA, UAP and AMI correlates to those in patients with other diseases or with the recited conditions. The skilled artisan cannot contemplate how to use the claimed invention because it is unknown what specific levels of PTX3 can be used as an indicator of the extent of different forms of the undefined vascular injury as in claims 21-40.

In addition, the specification provides no guidance as to how to assess a progression of a coronary artery condition in a patient who has not had a myocardial infarction based on a level of PTX3 and how to access a progress from stable angina toward unstable angina or from unstable angina toward myocardial infarction when the level of pentraxin, PTX3, is higher than the level of pentraxin, PTX3, determined in an otherwise similar sample previously obtained from the subject as in claims 41-42. The instant specification only shows that the levels of PTX3 in the blood of patients suffering from CA, UAP and AMI are higher and the pathological conditions of these patients are severe as compared to patients without CA, UAP and AMI. There is not guidance provided as to what specific level of PTX3 changes in a patient who has not had a myocardial infarction would progress from stable angina toward unstable angina or would progress from unstable angina toward myocardial infarction.

The instant specification is not enabling because one can not follow the guidance presented therein and practice the claimed method without first making a substantial inventive contribution. Accordingly, the rejection of claims 21-42 under 35 U.S.C. 112, first paragraph, because the specification does not enable the invention commensurate in scope with the claims is maintained.

Obviousness-Type Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 21-42 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No. 12/092272. The rejection is maintained for the reasons made of record and the reasons set forth below.

On p. 12 of the response, Applicant argues that the rejection is moot because the claims are cancelled. Applicant argues that the forgoing amendments and remarks address all the remaining rejections and place the instant application in condition for allowance. Applicant argues that based on MPEP 804 (I)(B), the instant provisional rejection can be withdrawn because the pending applicant has not been allowed. Applicant's arguments have been fully considered but they are not persuasive.

In contrast to Applicant's arguments, claims 21-36 are not canceled. In addition, newly added claims 37-42 are within the scope of the claims 21-36 and thus are also rejected under ODP. Further, note that instant claims 21-42 are not allowable and the

amendment and the remark haven't overcome the remaining rejections. Thus, the ODP rejection is maintained of record until a terminal disclaimer is filed.

New Grounds of Rejection Necessitated by the Amendment

The following rejections are new grounds of rejections necessitated by the amendment filed on 4/28/10.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 41 and 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

Claims 41-42 are drawn to a method for assessing progression of a coronary artery condition in a subject who has not had a myocardial infarction comprising obtaining a blood, plasma or serum sample from said subject, determining the level of PTX3 in the sample, and assessing a progression from stable angina toward unstable angina or from unstable angina toward myocardial infarction when the level of PTX3 is higher than the level of PTX3 determined in an otherwise similar sample previously obtained from the subject.

The instant claims now recite limitation “assessing a progression from stable angina toward unstable angina or from unstable angina toward myocardial infarction when the level of pentraxin, PTX3, is higher than the level of pentraxin, PTX3, determined in an otherwise similar sample previously obtained from the subject", which was not clearly disclosed in the specification and claims as filed, and now changes the scope of the instant disclosure as filed. Such limitation recited in the present claims, which did not appear in the specification or original claims, as filed, introduces new concepts and violate the description requirement of the first paragraph of 35 U.S.C. 112.

The specification fails to disclose the new limitation “assessing a progression from stable angina toward unstable angina or from unstable angina toward myocardial infarction when the level of pentraxin, PTX3, is higher than the level of pentraxin, PTX3, determined in an otherwise similar sample previously obtained from the subject” as in claim 41. The specification only discloses the levels of PTX3 in patients with stable angina, unstable angina and myocardial infarction individually (see p. 51 and figure 4). The specification provides no guidance as to how to assess a progression from stable angina toward unstable angina or from unstable angina toward myocardial infarction when the level of pentraxin, PTX3, is higher than the level of pentraxin, PTX3, determined in an otherwise similar sample previously obtained from the subject”. Accordingly, in the absence of sufficient recitation of the new limitation, the specification does not provide adequate written description to support the new limitation recited in new claim 41. Support is not found for the new limitation as disclosed in the original specification and thus the recitation constitutes new matter absent evidence for their

support. Applicant is required to cancel the new matter in the reply to this office action. Alternatively, Applicant is invited to clearly point out the written support for the instant limitations.

Conclusion

7. NO CLAIM IS ALLOWED.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry of a general nature or relating to the status of this general application should be directed to the Group receptionist whose telephone number is (571) 272-1600.

Papers relating to this application may be submitted to Technology Center 1600, Group 1649 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). Should applicant wish to FAX a response, the current FAX number for Group 1600 is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chang-Yu Wang, Ph.D. whose telephone number is (571) 272-4521. The examiner can normally be reached on Monday-Thursday from 8:30 AM to 6:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Stucker, can be reached at (571) 272-0911.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/CYW/
Chang-Yu Wang
July 10, 2010

/Christine J Saoud/
Primary Examiner, Art Unit 1647